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3.

*Description of new genera of Vermes.*

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1. PELOSCOLEX. n. g. Setæ in two rows, 6 to 10 in each fasciculus; podal hooks in two rows, in twos or threes, bifurcated at the free extremity; each annulation furnished with a circle of prominent tubercles, with numerous smaller ones. Upper lip hardly projecting. Girdle not prominent. Blood red.

1. PELOSCOLEX VARIEGATUS.—Body cylindrical, posteriorly obtuse, anteriorly sub-acute. Setæ simple, usually 10 in each fasciculus anterior to the girdle, absent in the posterior 22 annulations. Podal hooks anteriorly in threes, divergent, strong, sigmoid, bifurcated at the extremity; posteriorly in twos, one rudimentary. Each annulation furnished with a circlet of elevated, rounded tubercles, 1,800th in. in height, and numerous smaller ones, also arranged in transverse circles. Anterior, 3 or 4 annulations reddish; after these 25 are deep black, except the tenth or girdle, which is broad and brownish; posterior annulations red or brown. Upper lip so little projecting that the mouth appears almost terminal, furnished with short, stiff hairs. Whole number of annulations 50.

Length 4 lines; length of setæ, 1-133d in. to 1-80th in.; length of podal hooks 1-400th in. to 1-178th in.

*Habitation.*—Found in the spring of the year in the ferruginous mud at the bottom of springs impregnated with iron, near Philadelphia.

2. CHAETOGASTER, Bæer:

Bæer, *Nova acta nat. Curios.* 1827, p. 614; Ehrenberg, *Symb. Phys.*, 1831.

*Nais diaphina* and *Nais diastropa*. Gruithuisen. *Nov. act. nat. cur.* 1828, p. 407.

Body cylindrical, elongate; mouth inferior, large, triangular; anus terminal. Podal spines in transverse fasciculi, inferior, simple; the first pair of fasciculi close to the mouth; the second distant. Intestine straight, capacious. Eyes none. Blood white. Increasing by division. *Leidy.*

2. CHAETOGASTER GULOSUS.—Body whitish, translucent; posteriorly obtuse, ciliated with long hairs; mouth infero-terminal, large, triangular, simple; upper lip digitiform, ciliated. Œsophagus short, narrow; first stomach long, cylindrical, transparent; 2nd stomach large, oblong; intestine straight, capacious. Podal spines in pairs of fasciculi of 5 or 6 each, simple, divergent, curved backward near the free end, retractile; first pair just posterior to each side of the mouth inferiorly; second pair removed far back. Usually found in the state of division; commonly 2 to 4 subdivisions.

First subdivision 1-24th in.; furnished with 6 pairs of fasciculi of podal spines, the second pair one half of the length of the subdivision from the first or oral pair. Second subdivision 1-100th in.; third, 1-66th in.; fourth 1-100th in. Each of these latter furnished with 4 fasciculi of podal spines.

Whole length, 1 line; will contract to half a line; breadth, 1-140th in.; mouth, when open, 1-250th in.; length of podal spines, 1-133d in.

*Habitation and Remarks.*—Found abundantly with *Hydra fusca*, etc., in the water of marshes in the vicinity of Philadelphia. This worm is very active in its movements and very rapacious. Creeping upon bodies in the water, it rapidly elongates the anterior part of its body in various directions, and swallows great numbers of the smaller infusoria. In turn, it is much preyed upon by the

*Hydra fusca*.—When the anterior part of the body is elongated in search of food, the mouth is much distended and terminal.

3. *RHYNCHOSCOLEX*, n. g.—Body cylindrical, soft, naked, transversely and finely striated, vibrillated, anteriorly elongated into a probosciform appendage. Mouth inferior; anus terminal. Intestine simple, straight. Eyes none.

3. *RHYNCHOSCOLEX SIMPLEX*.—Yellowish white, opaque, anteriorly abruptly attenuated into a long, cylindrical clavate, probosciform appendage: anteriorly abruptly narrowed, obtusely truncate or rounded. Proboscis presenting longitudinal and numerous transverse marks. Mouth inferior, at the base of the latter appendage. Intestine straight and capacious.

Length, 2 to 3 lines; breadth, 1-6th of a line; proboscis 1-133d in. long, but may lengthen to 1-80th in.

*Habitation and Remarks*.—A small wriggling worm found among yellowish fragments of vegetable matters and confervæ at the bottom of clear brooks in the vicinity of Philadelphia. Under a very little pressure it undergoes rapid disintegration into globular masses: (cells of the structure distended by endosmosis?)

1. *EMEA*.<sup>\*</sup>—Body elongated, plano-convex, soft, proteiform, naked, covered with minute vibrillæ. Alimentary canal simple, tortuous, furnished with a gizzard containing a dental apparatus; mouth and anus terminal. Eyes two or three, on each side of the head.

1. *EMEA RUBRA*.—Elongated, compressed, contracting irregularly, broadest posteriorly, anteriorly obtuse, yellowish flesh colored. Head semi-oval, neck projecting laterally. Eyes, two or three black spots placed in a line behind one another on each side of the head and neck. Mouth simple, opening into a narrow pharynx; intestine cylindrical, narrowed posteriorly, furnished with a small, round, muscular stomach, containing a corneous dental apparatus at its entrance. Generative apparatus consisting of two very tortuous and capacious tubes, passing the whole length of the body on each side of the alimentary canal.

Length from 3 to 10 lines; breadth 1-5th to 1-3d of a line.

*Habitation and Remarks*.—Found in marshes in the vicinity of Philadelphia, creeping upon dead vegetable substances, or upon the ground. When touched or irritated, it secretes a large quantity of very tenacious mucous. Under slight pressure it will voluntarily evert more than one half of the intestinal canal through the mouth, and upon removal of the pressure, after some minutes, will again withdraw it, and apparently without injury having been sustained, as the animal lives for days afterwards in its usual circumstances. The interior of the body, in the intervals of the viscera, is filled with discoidal corpuscles, as in *Nais*, etc. The interior of the intestine is every where furnished with nutritive villous appendages.

2. *ANORTHA*.<sup>†</sup>—Body sub-compressed, soft, naked, vibrillated, inarticulate. Alimentary canal simple, straight, alternately contracted and dilated. Mouth and anus terminal, simple, indistinct. Eyes none.

2. *ANORTHA GRACILIS*.—White, opalescent, very contractile, moniliform

<sup>\*</sup> ἐμῆω, from the disposition the animal has to protrude or vomit forth the anterior part of the intestine.

<sup>†</sup> ἀνορθόω, from the erect position of the animal.

from an alternation of contraction and dilatation, corresponding usually to ten segments, into which the animal may subdivide, but more or less disappearing in elongation of the body, becoming more apparent by wrinkling in shortening of the body ; anteriorly semi-ovate, sub-acute ; posteriorly elongated, cylindroid, obtusely rounded. Apparent segments panduriform, furnished each posteriorly with a clear globular nucleolated nucleus. Intestine variable in capacity, usually dilated in the anterior dilatation of each apparent segment, and much contracted in the intervals.

Length from 1-2 to 2 lines, shortening to 1 or 1-4 a line ; breadth, when elongated, from 1-400th to 1-300th in. ; when shortened from 1-300th in. to 1-2 of a line.

*Habitation and Remarks.*—Found in the same situation as the preceding, creeping planaria-like upon different substances, or most frequently holding a vertical position in the water, apparently without movement, but retaining their position by means of the actively moving vibrillæ, which are comparatively larger than in the preceding worms. They appear to feed upon vegetable particles brought to the mouth by means of the currents produced by vibrillæ. The intestine is usually empty, except at the dilated portions, where it is yellowish or greenish, from granular matters contained within. The whole structure of the animal is exceedingly simple, composed of nucleolated, granular corpuscles, those forming the exterior of the body being furnished with vibrillæ. Under slight pressure, these corpuscles undergo separation from one another, and become globular by endosmosis ; in this state they measure from the 1-7000th in. to the 1-2800th in. The nucleoli are globular, shining, and measure the 1-9000th in. in diameter. The exterior vibrillated corpuscles, after separation from the body, often move about for some seconds. The vibrillæ measure about 1-3500th in. long. Each segment of the animal's body, at its posterior part, contains a globular, transparent nucleus, measuring the 1-2333d in. in diameter, with a globular, refractile nucleolus the 1-7000th in. in diameter. This latter body, with the form of the apparent segments, makes the animal resemble a row of gregarinæ attached together.

